



# Fermi National Accelerator Laboratory

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## A Comment on the BNL Event

$$\nu p \rightarrow \mu^- \Lambda^0 \pi^+ \pi^+ \pi^+ \pi^-^*$$

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Even within the charm scheme, the interpretation of the observed<sup>1</sup> event

$$\nu p \rightarrow \mu^- \Lambda^0 \pi^+ \pi^+ \pi^+ \pi^-$$

as production and subsequent decay of a charmed baryon at 2425 MeV is very suggestive, but not compelling.

In Table I, I reconstruct the kinematics of the observed event from the table in the preprint, which was unfortunately omitted in the published version. If we assume the track 1 as the muon, and the track 4,  $\pi^-$  (an unlikely identification, but a possible one nevertheless), then the event can be fitted with

$$\nu p \rightarrow \mu^- \Lambda^0 \pi^+ F^+ \rightarrow \mu^- \Lambda^0 \pi^+ \pi^+ \pi^+ \pi^-$$

where  $F^+$  is a bound state ( $c\bar{s}$ ). The mass of  $F^+$  is then 2.29 GeV (2.12 GeV) if we assume tracks 2, 5, 4 (3, 5, 4) are the decay products of  $F^+$ .

I thank the group at BNL, and N. Samios in particular, for informing me of their result prior to publication, and discussions.

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\*This document is not intended for publication.



TABLE I.

Track	Charge	E	$P_x$	$P_y$	$P_z$	
1	-	1.22	1.125	-0.445	-0.110	$\pi^- (\mu^-)$
2	+	0.20	0.134	-0.048	-0.025	$\pi^+$
3	+	0.60	0.571	+0.012	-0.134	$\pi^+$
4	-	9.79	9.709	+0.918	-0.853	$\mu^- (\pi^-)$
5	+	0.25	0.080	+0.031	+0.193	$\pi^+$
6	-	0.51	0.411	-0.106	+0.240	$\left. \begin{array}{c} \pi^- \\ p \end{array} \right) \Lambda$
7	+	1.87	1.485	-0.379	+0.516	

REFERENCES

- <sup>1</sup>E. G. Cazzoli et al., Phys. Rev. Letters 34, 1125 (1975).